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**PRESIDENCY UNIVERSITY**

**Bengaluru**

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| **End - Term Examinations – JANUARY 2025** |
| **Date:** 13 – 01- 2025 **Time:** 09:30 am – 12:30 pm |

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| **School:** SOCSE | **Program:** B. Tech IST/ISD | |
| **Course Code :** CSE2053 | **Course Name :** Enterprise Network Design | |
| **Semester**: V | **Max Marks**: 100 | **Weightage**: 50% |

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| **CO - Levels** | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** |
| **Marks** | **24** | **24** | **26** | **26** | **-** |

**Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Do not write anything on the question paper other than roll number.*

**Part A**

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| **Answer ALL the Questions. Each question carries 2marks. 10Q x 2M=20M** | | | | |
| **1** | What is meant by Intelligence In Network(IIN). | **2 Marks** | **L1** | **CO1** |
| **2** | Recall any two advantages of Design Methodology. | **2 Marks** | **L1** | **CO1** |
| **3** | Identify any one role of core switch. | **2 Marks** | **L1** | **CO2** |
| **4** | State any one Infrastructure service capabilities while designing an enterprise campus network. | **2 Marks** | **L1** | **CO2** |
| **5** | List any two traditional WAN technologies. | **2 Marks** | **L1** | **CO3** |
| **6** | State any recurring cost for WAN. | **2 Marks** | **L1** | **CO3** |
| **7** | Define Route Summarization. | **2 Marks** | **L1** | **CO3** |
| **8** | Define a flow. | **2 Marks** | **L1** | **CO4** |
| **9** | What is a forwarding plane in SDN. | **2 Marks** | **L1** | **CO4** |
| **10** | Outline NOX SDN controller. | **2 Marks** | **L1** | **CO4** |

**Part B**

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| **Answer the Questions Total 80 Marks.** | | | | | | |
| **11.** | **a.**  **b.** | Explain Organizational Goals  Explain in detail Design Implementation Process. | **8+12=20 Marks** | **L2** | **CO1** |
| **Or** | | | | | |
| **12.** | **a.** | Summarize the benefits of Life Cycle approach.  Explain in detail the PPDIOO network life cycle. | **20 Marks** | **L2** | **CO1** |
|  |  |  |  |  |  |
| **13.** | **a.** | How is topology information collected.  Consider the office of company which consists of two buildings. Building 1 consists of 3 departments. Building 2 hosts the Internet Router, the server farm(10 nodes) and 2 departments. Assume that each department has 20 employees using desktop machines. Illustrate a network topology diagram for this company. | **20 Marks** | **L3** | **CO2** |
| **Or** | | | | | |
| **14.** | **a.** | Explain hierarchical network model in detail.  Consider a residence which contains 3 rooms. Each room contains 10 computers. Determine whether there is a need for separate core/distribution switch for this network. Calculate how many switches are required for this network. | **20 Marks** | **L3** | **CO2** |

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| **15.** | **a.** | Consider the office of company which consists of two buildings. Building 1 consists of 3 departments. Building 2 hosts the Internet Router, the server farm(10 nodes) and 2 departments. Assume that each department has 20 employees using desktop machines. Describe how network IP addresses are assigned for this network. | **20 Marks** | **L2** | **CO3** |
| **Or** | | | | | |
| **16.** | **a.** | Explain the WAN technologies in detail.  Summarize how VPN is used as WAN backup. | **12+8 =20 Marks** | **L2** | **CO3** |

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| **17.** | **a.**  **b.** | Distinguish NOX and POX. Explain the NOX architecture.  Consider the following network topology.  eth2  eth3  eth2  eth0  eth0  eth0  10.0.0.2  10.0.0.3  10.0.0.10  s1  h1  h2  h3  s2  eth1  eth1  Illustrate the OpenFlow statements to   * + 1. Add flow entries forward all packets from hosts h1 to host h3 with IP address 10.0.0.10 [Hint: flow entries must be added in both switches s1 and s2]. | **10+10=20 Marks** | **L3** | **CO4** |
| **Or** | | | | | |
| **18.** | **a.**  **b.** | Explain in detail SDN controllers.  Consider the following network topology.  eth2  eth3  eth2  eth0  eth0  eth0  10.0.0.2  10.0.0.3  10.0.0.10  s1  h1  h2  h3  s2  eth1  eth1  Illustrate the OpenFlow statements to   * + 1. Add flow entries in switch s1 for forwarding all packets with destination TCP port 80 to host h1.     2. Show the flow entries in the two switches. | **10+10=20 Marks** | **L3** | **CO4** |

**\*\*\*\*\* BEST WISHES \*\*\*\*\***